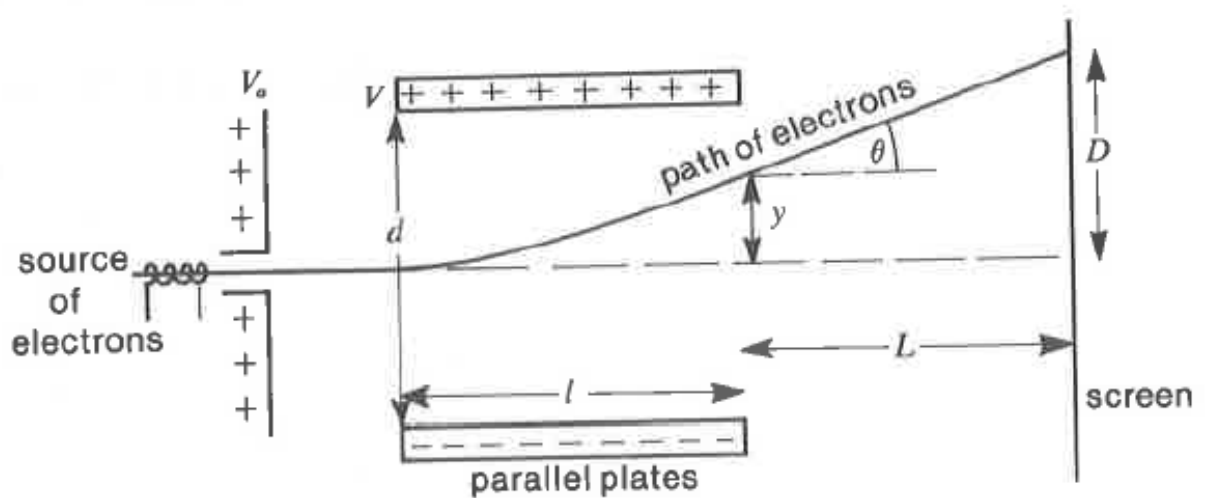


CRT Lab

1. Electron beam deflected by electric field

[Physics 12 Lab manual](#)
P75 hard copy, p81 pdf

#038 Key elements of a cathode ray tube



- a) Set V_a at 500V, vary V_d and mark the position of the beam on masking tape on the screen. measure V_d with multimeter

D(cm)	0								
V_d (V)	0	9V	-9V	18V	-18V			45V	-45V

b) Set V_d at max (like 45V) and vary V_a (don't use a rheostat like it says in the labbook)

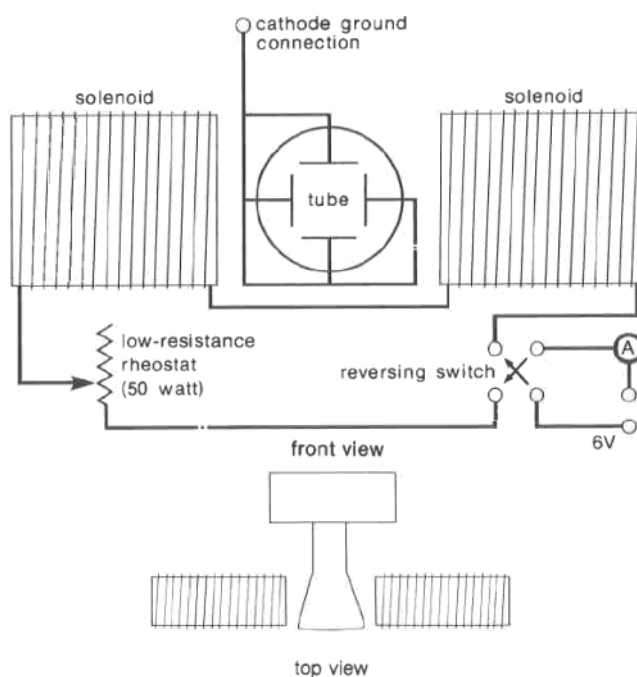
D(cm)			
V_a (V)	500V	600V	700V

Part 2 Magnetic fields lab manual p93 hard copy p99 pdf

Return batteries

Set up solenoids on either side of the cathode ray tube

050 Apparatus for using a magnetic field to deflect an electron beam



Place a compass at the cathode tube.

Predict the direction the compass will point and the electron beam will deflect.
Vary current, measure deflection.

I(A)	0	1.0	2.0	3.0	4.0	5.0
D(cm)	0					

Hand in a D vs V_d graph, D vs $1/V_a$ graph and a D vs I graph - no max min lines but with uncertainties bars, and equations.